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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/801,009

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Go Kaneko

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BAKER BOTTS LLP

C/O INTELLECTUAL PROPERTY DEPARTMENT

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EXAMINER

CHIEM, DINH D

ART UNIT

PAPER NUMBER

2883

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/801,009

Applicant(s)

KANEKO ET AL.

Examiner

Erin D. Chiem

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-12 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the amendment filed on November 10, 2005. Independent claims 1 and 12 are amended and claim 2 has been canceled; currently claims 1, 3-12 are pending.

Claim Objections

Claim 4 is objected to because of the following informalities: a typographical error is found in the second line of claim 4, perhaps applicant is intended to recite --*opening portion is filled with an adhesive*--. Appropriate correction is required.

Claim 5 is objected to because of the following informalities: there appears to be a typographical error in the fourth line of the claim wherein the word "having" appears to be missing from the phrase --*a short fiber portion _____ higher in breakage resistance*--. Appropriate correction is required.

Claim 12 is objected to because of the following informalities: the recitation --*a short fiber portion connected to one of the longitudinal ends of the long fiber portion and having high breakage resistance and flexibility*--it is unclear whether the description "having high breakage resistance and flexibility" is describing the short fiber portion or the long fiber portion. Appropriate correction is required. For the purpose of examination the examiner shall interpret the description is referred to the short fiber.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamekuni et al. (US 5,993,070 "Tamekuni" hereinafter) in view of Essert et al. (US 5,367,594 "Essert" hereinafter).

Tamekuni teaches an optical connector comprising a long fiber 10, from Figure 2, a short fiber portion applied with metal or carbon coating to reinforce the fiber strength (co. 8, lines 42-46) when the fiber buckles during butt coupling and the ends of the two portions of fiber are exposed. The first connector (Fig. 1A; 6) connected to the second connector (7) has a main body (4) a clamp portion (5a or 5b) holding the first optical fiber and a cover fixing 4b, the clamp to the main body.

However, Tamekuni does not *explicitly* teach fusion splicing to permanently connect the longitudinal ends of the short portion of the fiber and the long portion of the fiber together, wherein the fusion connection portion between the long fiber portion and the short fiber portion is held within the clamp portion.

Essert teaches a fiber optic splicer-connector wherein the first connector element comprises a main body (10), a clamp portion (12) holding the first optical fiber; and a cover (14) fixing the clamp portion to the main body, wherein the fusion connection portion between two

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fibers are held within the clamp portion (col. 6, lines 44-51). Regarding the limitation that the short fiber portion is bent in the connected state of the optical connector is a natural tendency of the fiber under the clamped condition. Regarding the limitation that the short fiber portion having high breakage resistance and flexibility is obvious since the longer the fiber, the more strain is placed on the surface area of body of the fiber caused by the natural bending force of the longer length in comparison to the shorter fiber.

Regarding claim 3, Essert shows in Fig. 1 that the fused portion of the two connected fiber is exposed through the slit (52) within the clamp.

Since Tamekuni and Essert are both from the same field of endeavor, the purpose disclosed by Essert would have been recognized in the pertinent art of Tamekuni.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to understand that Tamekuni teaches a method of butt coupling two fiber ends that is superior to fusing the two fiber ends together, but it does not undo the knowledge that fused fiber ends are held within the clamp. Irregardless, the examiner provided evidence that it has been taught by Essert that one may clamp two ends of the fibers together having the fused portion held within the opening of the clamp as shown in Fig. 1. **The motivation** for providing a splicer-connector is for the highly desirable space conservation that is needed in telecommunications networks. Although Tamekuni teaches that butt coupling is superior to fusion splicing because of the difficulty of handling preconnectorized fibers and the need for extra equipment and highly skilled technicians to provide onsite fusion splicing. However, Essert's teaching overcomes these difficulties by providing a fusion tool (26) that can be easily applied to the clamp via the aperture (107). The fusion tool (26) eliminates the need for

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additional bulky fusing equipment, the need for highly skilled technicians because one having little skill may fuse together the fiber ends simply by inserting the fusion tool into the aperture of the clamp and apply heat at the slit portion (52). Furthermore, the clamp portion is neatly assembled within the connector (See Fig. 2).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamekuni in view of Essert as applied to claim 1 above, and further in view of Biedka (US 4,548,630 "Biedka" hereinafter).

Tamekuni and Essert in combination teaches a splicer-connector wherein a clamp is provided to grip the fused portion of the two fiber ends.

However, neither Tamekuni nor Essert explicitly teaches filling the opening portion of the clamp with an adhesive.

Biedka teaches applying a protective layer over the bared ends of the fused fiber with an epoxy (col. 2, lines 64-66).

Since Tamekuni, Essert, and Biedka are all from the same field of endeavor, the purpose disclosed by Biedka would have been recognized in the pertinent art of Tamekuni and Essert.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to protective means to bared fibers that have been fused together since the fused portion is exposed through the opening (51) of the clamp. This is a well-known practice in the optical fiber art. **The motivation** for protecting the fused portion with an epoxy is such that dirt, moisture, and other environmental agents is kept from degrading the bared fiber portions that have been fused together.

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Claims 5-8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamekuni in view of Essert as applied to claim 1 above, and further in view of Yamashita et al. (JP 08-122575 "Yamashita" hereinafter).

The combination of Tamekuni and Essert teach a splicer-connector wherein the splicer comprises of a clamp portion that holds the fusion splice of two fiber-ends together and the clamp is disposed within a connector.

However, neither Tamekuni nor Essert teaches two of such splicer-connectors are held together by an adapter having v-grooves that will align the optical fiber ends and the adapter having v-grooves provide a platform to butt-couple the two splicer-connectors together.

Yamashita teaches such adapter to integrally hold two connectors together. In Drawing 3, Yamashita shows an adapter (2) having v-grooves (8) wherein the two connectors (1) shown in Drawing 1, are plugged into the receptacles (7). The v-grooves (8) provide alignment for the fiber ends wherein they butt couple, similar to Drawing 9. The purpose for such adapter as taught by Yamashita is to provide easy connection of different devices within a transmission network such as detectors, amplifiers, repeaters, modulators and/or multiplexers and demultiplexers.

Since Tamekuni, Essert, and Yamashita are all from the same field of endeavor, the purpose disclosed by Yamashita would have been recognized in the pertinent art of Tamekuni and Essert.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to apply Yamashita's teaching of an adapter to cooperatively join connectors, which may be optically connected to various devices such as a multiplexer to a

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modulator and to a demultiplexers. Since the combination of Tamekuni and Essert's teachings in a splicer disposed within a connector, thus the splicer-connector can be treated as a connector such as the connectors (1) in Yamashita's teaching. Therefore the two connectors may be easily plugged into the adapter having a v-groove substrate that readily aligns the fiber ends for butt-coupling. **The motivation** for employing the adapter as taught by Yamashita is need for space conservation in a transmission network. Yamashita's adapter incorporates both an adapter and a passive aligning tool, v-grooves, that is readily used in the field where technicians are required to couple multiple devices along the transmission network.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamekuni and Essert in further view of Yamashita as applied to claims 1, 5, 7, and 8 above, and further in view of Biedka.

Tamekuni and Essert in further view of Yamashita teaches an adapter having v-grooves to align the fiber ends from two splicer-connectors that are plugged into the adapter.

However, Tamekuni, Essert, and Yamashita does not explicitly teach filling the clamp opening with adhesive to protect the fused fiber-ends.

Biedka teaches applying a protective layer over the bared ends of the fused fiber with an epoxy (col. 2, lines 64-66).

Since Tamekuni, Essert, Yamashita, and Biedka are all from the same field of endeavor, the purpose disclosed by Biedka would have been recognized in the pertinent art of Tamekuni, Essert, and Yamashita.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to protective means to bared fibers that have been fused together since the fused portion is exposed through the opening (51) of the clamp. This is a well-known practice in the optical fiber art. **The motivation** for protecting the fused portion with an epoxy is such that dirt, moisture, and other environmental agents is kept from degrading the bared fiber portions that have been fused together.

Response to Arguments

Applicant's arguments filed November 10, 2005 have been fully considered but they are not persuasive. Applicant's main argument draws the single point that Tamekuni's connector being superior to applicant's invention because Tamekuni teaches butt coupling the optical fiber ends instead of fusion splicing for easy onsite installation is not sufficient to establish a prima facie case of obviousness. However, the examiner respectfully point out that it has been shown by Tamekuni's prior art disclosure that fusion splicing, method 1, is capable of being employed in Tamekuni's clamp-connector as well as butt coupling connection, method 2. Since either method 1 **and/or** method 2 will accomplish the function in which Tamekuni set out to accomplish in a connector, then it would be obvious to one having ordinary skill in the art to realize the necessary modification in Tamekuni's teaching to achieve applicant's invention in claim 1 and 12. Irregardless, applicant have amended the independent claims 1 and 12 and changed the scope of the independent claims by further amending the limitation regarding the "fusion connection portion between the long fiber portion and the short fiber portion is held

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within the clamp portion," the examiner provided prior art teachings which read upon these amended limitations.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin D. Chiem whose telephone number is (571) 272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erin D Chiem
Examiner
Art Unit 2883



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